

Glossary

RG-01-1189

Glossary

ADC unit. *See also* DAC unit. Analog-to-digital converter. Converts analog sound waves into digital form to be manipulated by the computer.

Additive synthesis. The process of creating a sound or timbre by adding harmonics to a sine wave.

Algorithm. A series of computer operations which perform a specific task.

Amplitude modulation. Periodic change in the volume of a sound with the effect of a tremolo or repeated emphasis of the same sound.

Analysis. Computer measurement of a sampled sound waveform so that it can be produced synthetically or resynthesized.

Attack. The beginning of a sound.

Auto-mix. Controlling and recording changes in track playback volume.

Backing up. Saving copies of a file or sequence to a disk as you work. You also back up files and sequences to floppy disk or tape for safe keeping in another location.

Backtiming. Synchronizing the end time or some mid point of an event to a sequence.

Bank. A division of a timbre file containing up to eight timbres. Each timbre file can have up to eight banks of timbres. Also a row of eight buttons on the keyboard control panel.

Blocking. Dividing recorded material into sections called cues.

Boot. To activate the software that runs the system.

Bouncing. Copying or moving tracks or partial timbres.

Breath controller. An optional expression input controller which enables a player to control sound parameters with breath pressure through a mouthpiece device.

Button. *See also* memory button and take button.
A keyboard control panel button or a graphic button on the terminal screen used to select and control the system.

Caption. A descriptive phrase stored with a sound file or cue.

Catalog. A separate storage area where files and subcatalogs are stored.

Catalog directory. A list of files and subcatalogs contained in a catalog or subcatalog. The catalog directory is accessed with the catalog commands in the Monitor or the Subcatalog Directory in the Real-Time Performance system.

Category. A descriptive term identifying related optical disk files. A category can contain one or more subcategories.

Central processing unit (CPU). The primary functional unit of the computer system which controls the execution of program commands. Located in the signal processing unit.

Chain. Adding a selected section of recorded material one or more times to the end of the same or another section.

Glossary (con't)

Chorus. The addition of a duplicate sound, sometimes at a different pitch, to a single partial or the whole timbre.

CIM. *See* Clock Interface Module.

Click. *See also* speed and tempo. A digital metronome used for tempo and rhythm reference during recording. The click outputs from the CLICK TRACK jack on the control unit whenever the Memory Recorder is in operation. The rate is programmed by the CLICK RATE button and knob on the keyboard control panel.

Clicking. Pressing the large trackball button when the trackball cursor is on a terminal display item.

Clock Interface Module (CIM-1). An N.E.D. device that translates audio signals, clock pulses or FSK-encoded audio into clock pulses or FSK signals. It also divides clock pulses received at one jack and sends a smaller number of pulses to each of several divider outputs.

Clock pulse. *See* TTL logic pulse.

Column. A vertical division of the terminal screen. The space for one vertical row of characters or numbers.

Command. Directions given to the computer either by typing a specific word or series of characters and pressing the Return key or by selecting an item from a list of commands.

Command column. Vertical column of letters on the left side of the Screen Editor Display in which commands are typed.

Compiler. *See also reverse compiler.* A program that translates computer data from one format to another. The Synclavier compiler changes music written in the Script language into a format that can be played, modified and stored by the Memory Recorder.

Configure. The process of setting up the system software to recognize the existence and exact nature of all the hardware components.

Contiguous disk space. An unbroken area of storage space on a storage device. Files stored contiguously can be accessed quickly. All files must be stored this way.

Control interface. *See also interface.* A device through which a computer can be given instructions. Synclavier interfaces include the keyboard unit, the guitar and the graphics terminal.

Control knob. A round knob at the left of the keyboard used to change values relating to all Synclavier operations.

Controller. *See expression input controller.*

Converter. *See ADC unit and DAC unit.*

Crossfade. Fading one sequence, sound file or timbre frame out while another fades in so that there is a gradual change.

Cue. A section of a recording identified by in and out points on one or more Direct-to-Disk tracks.

Cuelist. A list on the Recorder Display or the Event List Editor panel showing the starting time, pitch and duration of each cue in a sequence.

Glossary (con't)

Current catalog. The top-level catalog or subcatalog currently in use. The computer assumes you are referring to this catalog whenever you recall or store a file, unless you tell it otherwise.

Current file. A file that temporarily exists in computer memory. The timbre on the keyboard, the sequence in the Memory Recorder or the sound file you are editing in the Sound Editor is the current file. Whenever you recall a new file into memory, it replaces the previous file and becomes the current file.

Cursor. A crosshair, rectangle or other symbol on the terminal screen indicating where an action will take place or which item will be selected.

Cursor key block. Block of terminal keys containing cursor keys and command keys immediately to the right of the main keys.

DAC unit. *See also* ADC unit. A digital-to-analog converter that converts the digital data of a sound wave into analog form so that it can be heard.

Data. Any text, sound, measurements, information, graphics or other material the computer or any of its programs can receive, process, use, store, recall or transmit.

Decay. A selected amount of time for change between events in a harmonic or volume envelope. Initial decay is the time for change between the peak volume level of the attack and the volume selected for the sustain portion of the envelope. Final decay is the time between key release at the sustain volume level and zero volume at the end of the envelope.

Default. A setting for a variable that is established whenever the system is turned on or restarted.

Delay. A selected amount of time between key depression and the start of a sound or one of its components.

Delete. See **erase**.

Device. A hardware component of the computer system. There are input, signal processing, memory, output and storage devices. The term is most often used in reference to storage devices such as Winchester, floppy drives, tape drives and optical disk drives.

Device name. The name the computer recognizes as referring to a specific storage device. If you have one Winchester, its device name is W0: (W-zero); W1: is the second Winchester. The first floppy drive is F0: (F-zero); F1: is the second floppy drive; the optical disk is O0: (oh-zero). The colon (:) is part of the device name.

Diagnostic programs. Programs used for preliminary diagnosis when some part of the system hardware appears to be malfunctioning. These programs are found on the system diagnostics disk.

Digital transfer. Transferring audio between a digital tape recorder and the Direct-to-Disk system.

Direct-to-Disk®. Synclavier proprietary technology allowing digital sound recording directly to a Winchester hard disk.

Directory. See also **catalog directory**. One of several display screens accessed from the Welcome Menu or Main Menu in the Real-Time Performance system, such as the Timbre Directory, Sound File Directory, Sequence Directory, Project Directory and Subcatalog Directory.

Glossary (con't)

Disk. A computer storage medium. Either a removable disk, a hard disk built into a disk drive or an optical disk in a cartridge.

Disk drive. A computer data storage component such as a Winchester or floppy disk drive.

Display. *See also* screen. Information presented on the terminal screen.

Display offset. A value used to adjust the time code display to a different number than that entering the system.

Display window. The digital display on the left of the Synclavier keyboard control panel which shows information about keyboard operations.

Dragging. Using the trackball to move the contents of one terminal display field to another.

Drive. A component of the system used for storage of data, such as a Winchester, floppy drive or tape drive.

Drop-frame. A SMPTE time code format that counts 30fps and then drops frames in a regular pattern to compensate for the American color video frame rate of 29.97 fps.

Dynamic envelope. A partial timbre setting that allows the selected partial timbre to sound or not sound, depending on the expression input to which it is patched. For example, a partial timbre patched to velocity may have its dynamic envelope set so that it sounds only when a key is pressed very rapidly.

Edit. To write, change or rearrange material on the terminal screen.

Edit decision list (EDL). A list of edited audio and visual events from different sources synchronized to a master film or video tape.

Enter. To give the computer directions or information by selecting an item on the terminal screen or by typing information on the terminal keyboard and then pressing Return. Also, to set up a device or subcatalog as the current device or subcatalog by selecting it from the Subcatalog Directory (in the Real-Time Performance module) or by typing the **enter** command (in the Monitor module).

Entry. A timbre in one of the banks of a timbre file. Each timbre file has up to eight banks of timbres, and each bank has as many as eight timbre entries.

Erase. To remove data from memory or from disk storage. When a file in disk storage is erased, its name is removed from the directory and the space it occupied is marked so that another file may be stored there.

Error message. A printed message appearing in the keyboard display window or on the terminal screen indicating that the latest instructions to the computer have not been performed. A list of error messages, the circumstances under which they occur and possible solutions is in the *Reference Guide*.

Event. Each audio occurrence (a cue, a piece of dialog, musical notes, etc.) placed in a sequence and triggered by the sequencer.

Event list. An Event List Editor display showing the starting time, pitch and duration of each note or cue in a sequence.

Glossary (con't)

Exit box. A small box located in the upper right corner of the terminal screen. You click the exit box to leave a display.

Expression input controller. A user interface controlling the parameters of a sound during performance or recording. Examples are keyboard velocity and pressure, mod wheel, ribbon controller, pedals and breath controller.

External synchronization. Synchronization of the Synclavier to other sequencers, tape, film or video.

Field. An area on a terminal display where a value or text can be entered. It usually has an identifying label.

File. Any block of information the computer can process. A filename and disk location are recorded in the directory of the catalog where a file is stored.

Filename. The name for a file designated by the user. A filename can be up to eight characters long and can include letters, numbers and symbols. It cannot contain a space or any of the following characters:

? ! : ; , / \ < > + = % & * | @

File type. An identifier that defines the internal structure of a file, such as timbre file, sequence file, sound file, text file or executable file.

Floppy disk. A removable flexible disk used as a storage medium in a floppy disk drive.

Floppy disk drive. An external storage device which stores data on floppy disks.

Format. To initialize or prepare a computer disk to receive data in the form required by a particular computer. The utility program Formcopy is used to format disks for the Synclavier.

Frames. *See also timbre frames.* The individual pictures that make up the visual part of film or video. Frame rates are expressed in frames per second (fps).

Frequency modulation. Additional harmonic components produced when a sound wave (carrier wave) interacts with a second sound wave (modulating wave).

FSK signal. A frequency shift key signal used to synchronize recording components.

Function keys. Pre-programmed keys located at the top of the terminal keyboard which activate a command when pressed.

Fundamental frequency. *See harmonics.*

Hardcopy. A computer file or sequence printed on paper.

Hard disk drive. Self-contained external storage device attached to the signal processing unit.

Hardware. The physical components of a computer system; for example, the signal processing unit, terminal, keyboard unit, disk drives and disks.

Harmonic envelope. A series of times and values controlling the addition of frequency modulation to a partial timbre. Delay, attack duration, peak volume, initial decay duration, sustain volume and final decay duration of the modulating wave can all be controlled.

Glossary (con't)

Harmonics. Also called overtones or harmonic coefficients. A series of related tones produced whenever a single note sounds. The number, strength and relationship of these tones define the waveform of a sound. The first harmonic is the fundamental frequency.

Input. Instructions, information or control data made available to a computer.

Interface. *See also control interface.* A device that allows exchange of data between different computer components or between computer and human being.

Justification. Adjusting the starting times of notes to the correct value. Notes of a sequence played at the keyboard slightly ahead of or behind the beat can be justified to place them exactly on the nearest beat or selected subdivision of the beat.

Keyboard. *See also velocity/pressure keyboard.* In Synclavier documentation, keyboard always refers to the musical keyboard. The typewriter keyboard of the terminal is called the terminal keyboard.

Keyboard control panel. The area above the Synclavier keyboard which contains five button panels, a display window and a control knob for controlling the system.

Keyboard control voltage. A difference in voltage produced by successive keyboard keys which can be used to control timbre parameters. Higher notes produce greater voltage.

Keyboard envelope. A timbre control function that allows the placing of a partial timbre on a particular section of the keyboard. You can place different partial timbres on overlapping or separate sections of the keyboard.

Keyboard patch. A group of sound files on a single partial timbre, each one sounding on a discrete region of the keyboard.

Keyboard polyphony. The number of notes that can sound simultaneously when you play on the Synclavier keyboard. This number is limited by the number of voices in your system. Each partial timbre requires one or two voices for each note played.

Keyboard unit. The unit which includes the 76-key Synclavier keyboard and the keyboard control panel.

Keypad. The set of number keys on the right side of the terminal keyboard.

Layering. Combining up to four different sounds or partial timbres to make a complex timbre.

Leader. Blank sound added to a cue.

Line. A horizontal division of the terminal screen. The space for one line of text across the screen.

List. To display a file or program on the terminal screen while in the Monitor module.

Load. To transfer a program or file from disk storage to computer memory. Also means to boot, or turn on, the system.

Longitudinal time code. A time code such as Vertical Interval Time Code (VITC) recorded within the film or video signal on tape.

Glossary (con't)

Looping. Continuous repetition of a section of a sound file or sequence. Sound files are given loops so that a continuous sound can be produced. Rhythm parts of a sequence are often looped to provide the sounds required.

Macro. A series of commands and/or data executed or inserted by pressing appropriate keys.

Memory. Areas in the computer where information can be inserted and stored temporarily. When the computer is turned off, all data stored in memory is lost.

Memory buttons. Small boxes located on some terminal displays and labeled M1, M2, etc. which store time values for later use.

Memory Recorder. Synclavier's 200-track real-time sequencer.

Menu. A terminal display with a list of commands or functions from which the desired item is selected.

Meter bridge. Remotely operated signal display with a peak program meter (PPM) for each track displayed.

MIDI (Musical Instrument Digital Interface). Hardware and software standards used throughout the electronic music industry so that many different kinds of electronic instruments can be controlled from a single MIDI keyboard or sequencer.

Mod wheel. A wheel-shaped expression input controller at the left of the Synclavier keyboard. It is used to control any of the parameters of a sound during performance or recording.

Mode. A set of functions identified by a single heading which affect the display or operation of the system.

Module. A major division of Synclavier software.

Monitor. Software module with facilities for creating, storing, organizing, copying and recalling files. A variety of useful utilities for software setup, disk formatting, search, file recovery and system trouble-shooting can be run from the Monitor.

Monophonic. Having one voice only. A monophonic timbre can be played only one note at a time. Chords are not possible, and a second note will sound only when the first note is released.

Motion controls. Controls which operate the sequencer, such as start, stop, rewind, fast forward and continue.

Multichannel Distributor. Optional hardware and software linking the Synclavier to a standard multitrack mixing console. Each track of the Memory Recorder can be routed to an independent output channel.

Music printing. Optional software which prints music recorded on the Memory Recorder in standard music notation.

Non-drop frame. *See also drop-frame.* The SMPTE time code format for American black-and-white video that counts 30 fps.

Notelist. A list on the Recorder Display or the Event List Editor panel showing the starting time, pitch and duration of each note in a sequence.

Noteline. One entry in a notelist.

Glossary (con't)

Optical disk. A removable permanent, non-magnetic storage medium for storing up to two gigabytes of sound files.

Optical drive. An external storage device which reads and writes to an optical disk.

Output. Sound, visual signals or digital signals produced by the computer. Sound output is produced by sampling voices or synthesizer voices. Visual signals may be terminal displays, lighted buttons on the keyboard control panel or material printed on a printer. Digital signals are sent directly to another computer component such as a storage device.

Overdubbing. Recording additional tracks of a sequence or recording additional notes on the the same track.

Overtones. *See harmonics.*

Overwrite. To store a file or sequence over another one of the same name. Data in the original file is destroyed.

Partial timbre. One of the four layers of a Synclavier timbre.

Patch. *See also keyboard patch.* To assign an expression input controller to a particular timbre parameter for real-time control.

Pitch wheel. A wheel-shaped controller at the left of the Synclavier keyboard used to bend the pitch of a keyboard timbre.

Poly transfer (PolyXfer). Transferring the current sound file from polyphonic sampling memory to a Direct-to-Disk track(s).

Polyphonic. Having more than one voice. The number of sampled sounds that can be played simultaneously is determined by the number of polyphonic sampling voices in the system; the number of FM synthesis sounds that can be played simultaneously is determined by the number of FM voices in the system.

Polyphonic sampling memory (poly memory). RAM reserved as a temporary storage area for sound files.

Program change. A MIDI message that transmits timbre change information anywhere in a sequence.

Project. A set of Direct-to-Disk tracks, separate from sequencer tracks, containing music, dialog or sound effects which can be edited and placed in a sequence.

Project tracks. *See also project.* A set of tracks associated with the Direct-to-Disk.

Query line. The line at the bottom of the Screen Editor Display that shows error messages and requests for information concerning the current file.

Real-time effects. *See also expression input controller.* Expression variables of the keyboard timbre and the means of controlling them.

Real-time performance (RTP). The software module of the Synclavier system used to create sounds, perform, record, edit and synchronize music, dialog or sound effects.

Reel. A button on the Audio Event Editor's Cue Editor panel where edited cues can be temporarily stored.

Glossary (con't)

Resynthesis. The process by which a digital analysis of a sampled sound is used to create a synthesized sound that matches the analysis.

Reverse compiler. A program that changes sounds recorded on the Memory Recorder or entered on the Music Notation Display to a format that can be edited with the Screen Editor.

Ribbon controller. A black felt strip located just above the Synclavier keyboard used for expression input. It can be used to control any of the parameters of a sound during performance or recording.

RTP. *See* Real-Time Performance.

Sample-to-Disk®. Optional Synclavier hardware and software used to sample sounds and record them directly to disk.

Sample-to-Memory™. Optional Synclavier hardware and software used to sample sounds and edit them in computer memory.

Sampling. The process of recording measurements of a sound wave a number of times (usually 40,000 or more) per second. Once recorded, these measurements can be used by the computer to reproduce the original sound. The sound can also be modified by digitally processing the measurements and by changing the sampling rate.

Save. To write or store a file or sequence in a disk storage area.

Scientific XPL. The computer language used for Synclavier programs.

Screen. The terminal display area. Displays of data or menus are also called screens.

Screen Editor. A Synclavier software module used for text editing.

Script. A computer language for writing music on the Synclavier.

Scroll bar. A bar on the terminal screen with a movable scroll box somewhere along its length and arrows at either end. It is used to move backward and forward through a list, sound, sequence or file.

Sector. A division of the storage area on a device or in memory. A sector is equal to 256 sixteen-bit words.

Selecting. Choosing a track to be heard, recorded, edited or erased.

Sequence. *See also sequencer.* A series of audio events—musical notes, MIDI data, sound effects, Foley effects or dialog— which can be triggered by the sequencer at a precise moment in time. Additional kinds of information including timbres and real-time effects are part of the sequence.

Sequencer. A recording and playback device for digital sound. The Sound itself is not recorded, only note on and off times, timbre definitions and various values controlling parameters and effects.

Signal processing. The manipulation of signals or data sent to the computer by a control interface. Some signals act directly on the data in computer memory, others trigger action by the processing programs. Processed information is then routed to the appropriate output or storage device.

Glossary (con't)

SMPTE. Society of Motion Picture and Television Engineers.

SMPTE offset. The SMPTE time at which a sequence is triggered.

SMPTE time code. A synchronized signal based on an industry standard time code format.

Software. Computer programs.

Soloing. Choosing particular tracks or partial timbres to be heard.

Song pointer. Information that tells a sequencer or other device where to begin playing. The sequencer auto-locates and begins to play from that point when you press START or CONTINUE.

Sound file. A digital version of a recorded sound stored in computer memory or on disk.

Speed. *See also click and tempo.* The rate at which a sequence proceeds, controlled by the SPEED button. The basic tempo of a sequence is set with the click rate. Temporary changes for listening or editing, however, can be made by changing the speed.

Status line. A line at the bottom of the terminal screen showing information about the file being edited, the mode or current working procedures and instructions or error messages.

Step. To move through multiple functions or values of a terminal display switch, one after the other.

Step editing. Editing note by note. The Synclavier can be set to advance one beat or one subdivision of the beat at a time to allow editing of each note.

Store. *See save.*

String. A group of one or more characters, numerals or symbols manipulated together by the computer.

Subcatalog. A separate area of storage space in a device or in another subcatalog that contains its own file directory. It may be thought of as a "disk-within-a-disk."

Switch. A terminal display item used to turn on or off a mode or function, or to step through a series of options.

Synchronization. *See external synchronization.*

Syntax. The format of terminal commands.

Synthesis. *See additive synthesis.*

Synthesizer. A computer-operated device which can produce and combine waveforms to create different sounds. The Synclavier keyboard unit includes a synthesizer operated by the harmonic control buttons on the keyboard control panel.

Take button. A small triangle in a box or a "T" associated with a field on the terminal screen. Take buttons are clicked to record the current play time or other time value.

Tape cartridge. A removable storage medium for use with an external tape drive to provide backup for a hard disk.

Glossary (con't)

Tempo. *See also click and speed.* The basic rate at which a sequence proceeds, measured in beats per minute or milliseconds between beats.

Terminal. The hardware component connected to a video display screen and typewriter keyboard used for input of commands and data.

Terminal keyboard. The expanded typing keyboard connected to the terminal screen, from which you can enter values, text and commands into a display.

Timbre. *See also partial timbre.* A combination of up to four layers of synthesized or sampled sounds. A timbre is stored in a timbre file on any of the Synclavier storage devices and can be recalled to the keyboard for performance or recording.

Timbre frames. A series of segments of a synthesized partial timbre, each of which can have different harmonics, delay time, volume, pitch and splice characteristics. As the series of frames is played one after the other, a sound with a changing waveform is created.

Time code. *See SMPTE time code.*

Time scale modification (TSM). Compressing or expanding the length of a cue or sound file without changing its pitch.

Toggle. To move back and forth between two functions or values of a terminal display switch.

Top-level catalog. The main storage area of each storage device containing files and subcatalogs. This is the catalog accessed when you first load your system or enter another device.

Track. A separate data storage area used to record a series of sounds. It is similar in function to a track on a tape recorder.

Trackball. A hand-operated controller which allows you to point to an object on the terminal screen and perform an operation.

Transpose. To change the pitch of a sound or sequence. On the Synclavier, a sequence can be transposed without changing its speed.

Treename. A file address in the system. The treename begins with the device name, followed by the name of the subcatalog in which the file is located, followed by the filename, all separated by colons.

TTL logic pulse. A periodic burst of direct current of a specific voltage and duration used to synchronize recording components.

Tuning. The overall pitch level or the relationship between notes of the scale.

Tuplet. The notation of an irregular number of note values per beat or subdivision. Triplets or quintuplets in common time are examples of triplets.

Unsave. *See* erase.

Utility programs. Programs used to set up the system software, format disks, copy files and subcatalogs, search files, recover damaged files and diagnose system problems.

Glossary (con't)

Velocity/pressure keyboard. A keyboard unit that senses the velocity with which you strike a key and the after-touch pressure you apply. The values sensed can be used to control a variety of expression parameters such as attack, volume or vibrato.

Vertical Integrated Time Code (VITC). A longitudinal time code for film or video containing the same address and user information as SMPTE.

Vibrato. A periodic variation in pitch.

Voices. Sound generator units which sound the timbres you design or sample. One note sounded on the keyboard requires at least one voice to sound. Depending on the complexity of the timbre used, a note may require up to sixteen voices. The number of notes that can sound simultaneously depends on the number of FM and polyphonic sampling voices in your system.

Volume envelope. A series of times and values controlling the volume of a partial timbre over time. Delay, attack duration, peak volume, initial decay duration, sustain volume and final decay duration can all be controlled to give the timbre a particular character as it begins, sustains and ends.

Winchester. *See* hard disk.

Write. *See also* save. To save or store a file or sequence in a disk storage area.